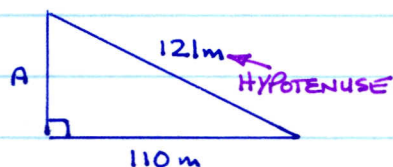


PRACTICE, PRACTICE, PRACTICE — TRIG....

#1 (a)



① RIGHT ANGLED TRIANGLE \Rightarrow P. THEOREM.

$$121^2 = A^2 + 110^2$$

\leftarrow THE SQUARE OF THE HYPOTENUSE EQUALS THE SUM OF THE SQUARES OF THE SIDES.

② BEFORE YOU CAN SOLVE FOR "A", YOU MUST REARRANGE THE ABOVE EQN. TO ISOLATE "A".

$$121^2 = A^2 + 110^2 \quad \left\{ \begin{array}{l} \text{subtracting } 110^2 \text{ from both sides of the} \\ \text{equation} \end{array} \right.$$

$$121^2 - 110^2 = A^2$$

$$14641 - 12100 = A^2$$

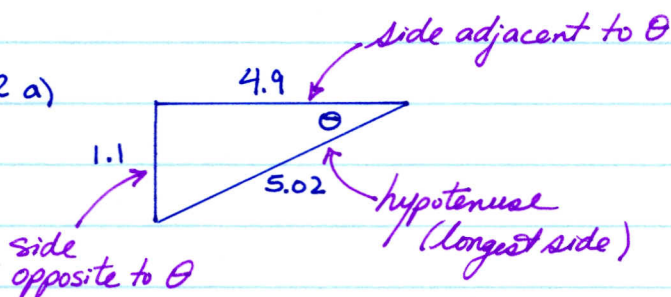
$$2541 = A^2$$

$$A = \sqrt{2541}$$

$$= 50.4 \text{ m} \quad \leftarrow \begin{array}{l} \text{answer expressed as 3 non-zero digits} \\ \text{units shown.} \end{array}$$

#1 b) 6.95 km c) 10.8 m/s d) 82.9 mm

#2 a)



$$\begin{aligned} \cos \theta &= \text{adj/hyp} \\ &= 4.9 / 5.02 \\ &= 0.9761 \end{aligned}$$

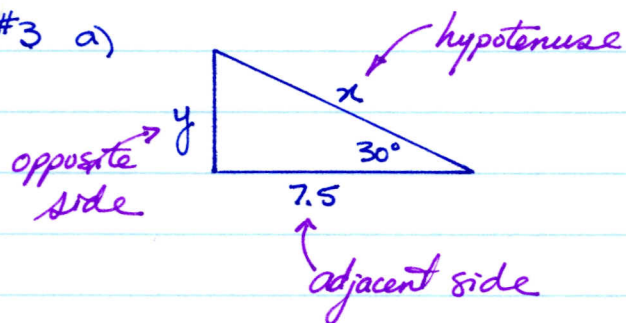
$$\begin{aligned} \theta &= \cos^{-1}(0.9761) \\ &= 12.5^\circ \end{aligned}$$

#2 b) $\sin \theta = 0.4474$ c) $\tan \theta = 1.2292$

$$\theta = 26.6^\circ$$

$$\theta = 50.9^\circ$$

#3 a)



TO SOLVE FOR x USING GIVEN INFO

$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\cos 30^\circ = \frac{7.5}{x} \quad \leftarrow \text{multiply both sides by } x$$

$$x \cos 30^\circ = 7.5 \quad \leftarrow \text{divide both sides by } \cos 30^\circ$$

$$x = 7.5 / \cos 30^\circ$$

$$= 8.66$$

subtract 7.5^2 from both sides

TO SOLVE FOR y USING AVAILABLE INFO:

APPY TRIG OR P. THEOREM

multiply both sides by 7.5 \rightarrow

$$\tan \theta = \text{opp/adj}$$

$$\tan 30^\circ = \frac{y}{7.5}$$

$$7.5 \tan 30^\circ = y$$

$$y = 4.33$$

$$8.66^2 = 7.5^2 + y^2$$

$$8.66^2 - 7.5^2 = y^2$$

$$18.75 = y^2$$

$$y = \sqrt{18.75}$$

$$= 4.33$$

b) $x = 20.9$

c) $x = 124.9$

"